The opinion in support of the decision being entered today was *not* written for publication and is *not* precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YOSHIYO KUBO, MOTOI YAMANOUE and AKIO MIZOBUCHI

Appeal No. 2000-1564
Application 08/924,307

ON BRIEF

Before KIMLIN, OWENS and TIMM, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's final rejection of claims 15-30, which are all of the claims remaining in the application.

THE INVENTION

The applicants' claimed invention is directed toward a separator paper for use in an alkaline battery. Claim 15 is illustrative:

> 15. A separator paper for electrically isolating an anode active material and a cathode active material of an alkaline-battery, comprising:
>
> a) a dense layer having alkali-proof cellulose fibers and synthetic fibers to provide an airtightness in the range of 2 sec/100 ml to 100 sec/100 ml; and
>
> b) a liquid impregnate layer integrally laminated to said dense layer, said liquid impregnate layer having alkali-proof cellulose fibers and synthetic fibers to provide a liquid impregnate ratio of more than 550%.

THE REFERENCES

Hayashi et al. (Hayashi)	5,366,832	Nov. 22, 1994
Mizutani et al. (Mizutani) (European patent application)	0 228 603	Jul. 15, 1987
Kubo et al. (JP '049)[1] (Japanese Kokai)	2-119049	May 7, 1990

[1] Citations herein to JP '049 are to the English translation thereof which is of record.

THE REJECTION

Claims 15-30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Mizutani in view of Hayashi and JP '049.[2]

OPINION

We reverse the examiner's rejection.

Each of the appellants' independent claims requires a dense layer integrally laminated to a liquid impregnate layer, each layer containing both alkali proof cellulose fibers and synthetic fibers. These claims further require that the dense layer has either a specified airtightness or a specified beating degree and that the liquid impregnate layer has either

[2] The examiner correctly states in the final rejection (paper no. 8) and the advisory action (paper no. 10) that claims 15-30 are rejected. The examiner, however, erroneously states in the examiner's answer that the rejected claims are claims 1-14, which have been canceled and replaced by claims 15-30.

a specified liquid impregnate ratio or a specified beating degree having a different recited value than that of the dense layer.

Mizutani discloses (page 3, lines 47-54):

> The separator according to the present invention can be manufactured by blending a cellulosic fiber and a fine-denier synthetic fiber and forming the mixture into a sheet or web. As an alternative, using a papermaking machine having two or more wire cloths, a separator can be manufactured by forming two or more webs and pressing them into a unit by means of the couch roll of the machine. When a fine-denier synthetic fiber is spread on one of the wire cloths to make a high-density, void lean web and a cellulosic fiber on the other wire cloth to form a low-density highly liquid-absorbent web and the two webs are pressed together, a separator having different characteristics on the face and reverse sides can be manufactured.

Thus, Mizutani discloses a single layer separator paper having both cellulosic and synthetic fibers, and a double layer separator paper wherein one layer has only cellulosic fibers and the other layer has only synthetic fibers.

Hayashi discloses a single layer separator paper containing both cellulosic fibers and synthetic fibers (col. 7, lines 54-60; col. 9, lines 19-24).

Kubo discloses a separator paper containing both cellulosic fibers and synthetic fibers and teaches that the

separator paper requires a reduced number of laminates of separator paper, thereby increasing the battery capacity (pages 9 and 28).

In response to the appellants' argument that there is no suggestion in the references to form integrally laminated layers such that the layers contain both cellulosic fibers and synthetic fibers and have different characteristics (brief, page 6), the examiner points out that Mizutani discloses integrally laminating a cellulosic fiber layer and a synthetic fiber layer and that JP '049 discloses mixing cellulosic fibers and synthetic fibers in a single layer and discloses laminating multiple layers (answer, page 7).[3] One of ordinary skill in the art, the examiner argues, would have varied the values of the properties of the layers, such as airtightness, liquid impregnate ratio and beating degree, depending on the type and application of the battery (answer, page 6).

In order for a *prima facie* case of obviousness to be established, the teachings from the prior art itself must

[3] This page number is based upon a renumbering of the pages consecutively from 1 to 11. In the file, the fourth page of the examiner's answer is erroneously numbered as page 2 and at that point the page numbering is restarted.

appear to have suggested the claimed subject matter to one of ordinary skill in the art. *See In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the examiner is not sufficient to establish a *prima facie* case of obviousness. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). The examiner must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. *See Fritch*, 972 F.2d at 1266, 23 USPQ2d at 1783-84.

The examiner correctly points out that the applied prior art discloses a single layer separator containing both cellulosic fibers and synthetic fibers and discloses multiple layers wherein each layer has the same composition. The examiner, however, has not explained how the applied references themselves would have led one of ordinary skill in the art to form a laminate wherein the layers contain both cellulosic fibers and synthetic fibers and have different properties such as airtightness, liquid impregnate ratio and beating degree. Particularly, the examiner has not explained

where the motivation for making such a laminate based upon the type and application of the battery, as argued by the examiner, is found in the applied references. The record indicates that the motivation for modifying the applied prior art as proposed by the examiner comes from the appellants' description of their invention in the specification rather than coming from the applied prior art and that, therefore, the examiner used impermissible hindsight when rejecting the claims. *See W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960). Accordingly, we reverse the examiner's rejection.

DECISION

The rejection of claims 15-30 under 35 U.S.C. § 103 over Mizutani in view of Hayashi and JP '049 is reversed.

REVERSED

EDWARD C. KIMLIN Administrative Patent Judge	)	
TERRY J. OWENS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
CATHERINE TIMM Administrative Patent Judge	)	

TJO/ki

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